

IN THE CLAIMS

1. (original) A computer-implemented method of managing memory of a data processing system, comprising:

allocating memory objects in response to memory allocation requests, each object having an associated a plurality of addresses;

storing type-identifier codes in association with memory objects, respectively; and

responsive to a transient memory error at a memory address, identifying the memory object associated with the memory address, obtaining the type-identifier code associated with the memory object, selecting one of a plurality of recovery actions using the type-identifier code as selection criteria, and performing the one of the recovery actions.

2. (original) The method of claim 1, further comprising storing the type-identifier codes within the memory objects, respectively.

3. (original) The method of claim 2, wherein the type-identifier code is a program counter value from which allocation of memory is requested.

4. (original) The method of claim 2, wherein an operating system manages resources of the data processing system for use by application programs executing on the data processing system, and a first type-identifier code identifies memory objects used by the operating system and a second type-identifier code identifies memory objects used by the application programs.

5. (original) The method of claim 2, wherein the one of the recovery actions comprises disregarding the error.

6. (original) The method of claim 2, wherein the one of the recovery actions comprises signaling an application program if the address of the memory error is associated with a memory object allocated to the application program.

7. (original) The method of claim 2, wherein the one of the recovery actions comprises halting the operating system.

8. (original) The method of claim 2, wherein the one of the recovery actions comprises logging information that describes the memory error.

9. (original) The method of claim 2, wherein an operating system manages resources of the data processing system for use by application programs executing on the data processing system, and a first type-identifier code identifies memory objects of a first type used by the operating system, a second type-identifier code identifies memory objects of a second type used by the operating system, a third type-identifier code identifies memory objects used by the application programs, and for errors in memory objects associated with the second type-identifier code, the one of the recovery actions logs information that describes the memory error.

10. (original) The method of claim 1, wherein the type-identifier code is a program counter value from which allocation of memory is requested.

11. (original) The method of claim 1, wherein an operating system manages resources of the data processing system for use by application programs executing on the data processing system, and a first type-identifier code identifies memory objects used by the operating system and a second type-identifier code identifies memory objects used by the application programs.

12. (original) The method of claim 1, wherein the one of the recovery actions comprises disregarding the error.

13. (original) The method of claim 1, wherein the one of the recovery actions comprises signaling an application program if the address of the memory error is associated with a memory object allocated to the application program.

14. (original) The method of claim 1, wherein the one of the recovery actions comprises halting the operating system.

15. (original) The method of claim 1, wherein the one of the recovery actions comprises logging information that describes the memory error.

16. (original) The method of claim 1, wherein an operating system manages resources of the data processing system for use by application programs executing on the data processing system, and a first type-identifier code identifies memory objects of a first type used by the operating system, a second type-identifier code identifies memory objects of a second type used by the operating system, a third type-identifier code identifies memory objects used by the application programs, and for errors in memory objects associated with the second type-identifier code, the one of the recovery actions logs information that describes the memory error.

17. (original) An apparatus for managing memory of a data processing system, comprising:
means for allocating memory objects in response to memory allocation requests, each object having an associated a plurality of addresses;
means for storing type-identifier codes in association with memory objects, respectively; and
means, responsive to a transient memory error at a memory address, for identifying the memory object associated with the memory address, obtaining the type-identifier code associated with the memory object, selecting one of a plurality of recovery actions using the type-identifier code as selection criteria, and performing the one of the recovery actions.

18. (new) A processor-based method of managing memory of a data processing system, comprising:
allocating memory objects by an operating system in response to random access memory (RAM) allocation requests, each object having an associated a plurality of RAM addresses, the memory allocation requests received from operating system processes and non-operating system processes;
storing type-identifier codes in association with allocated memory objects, respectively, wherein a first type-identifier code identifies memory objects of a first type used by an operating system process, a second type-identifier code identifies memory objects of a second type used by an operating system process, and a third type-identifier code identifies memory objects used by a non-operating system process; and
responsive to an error detected at a RAM memory address and not corrected, identifying the memory object associated with the RAM memory address, obtaining the type-

identifier code associated with the memory object, selecting one of a plurality of recovery actions using the type-identifier code as selection criteria, halting the operating system process in response to an error detected for a memory object having an associated first type-identifier code, and logging information that describes the error in response to an error detected for a memory object having a second type-identifier code.

19. (new) The method of claim 18, further comprising storing the type-identifier codes within the memory objects, respectively.

20. (new) The method of claim 19, wherein the type-identifier code is a program counter value from which allocation of memory is requested..

21. (new) The method of claim 19, further comprising responsive to an error detected at a RAM memory address and not corrected, signaling a non-operating system process in response to an error detected for a memory object having a third type-identifier code.

22. (new) An apparatus for managing memory of a data processing system, comprising:

means for allocating memory objects by an operating system in response to random access memory (RAM) allocation requests, each object having an associated a plurality of RAM addresses, the memory allocation requests received from operating system processes and non-operating system processes;

means for storing type-identifier codes in association with allocated memory objects, respectively, wherein a first type-identifier code identifies memory objects of a first type used by an operating system process, a second type-identifier code identifies memory objects of a second type used by an operating system process, and a third type-identifier code identifies memory objects used by a non-operating system process; and

means, responsive to an error detected at a RAM memory address and not corrected, for identifying the memory object associated with the RAM memory address, for obtaining the type-identifier code associated with the memory object, for selecting one of a plurality of recovery actions using the type-identifier code as selection criteria, for halting the operating system process in response to an error detected for a memory object having an associated first type-identifier code, and for logging information that describes the error in response to an error detected for a memory object having a second type-identifier code.

23. (new) A program storage device, comprising:

a processor-readable medium configured with instructions for causing a processor to manage memory of a data processing system by,

allocating memory objects by an operating system in response to random access memory (RAM) allocation requests, each object having an associated a plurality of RAM addresses, the memory allocation requests received from operating system processes and non-operating system processes;

storing type-identifier codes in association with allocated memory objects, respectively, wherein a first type-identifier code identifies memory objects of a first type used by an operating system process, a second type-identifier code identifies memory objects of a second type used by an operating system process, and a third type-identifier code identifies memory objects used by a non-operating system process; and

responsive to an error detected at a RAM memory address and not corrected, identifying the memory object associated with the RAM memory address, obtaining the type-identifier code associated with the memory object, selecting one of a plurality of recovery actions using the type-identifier code as selection criteria, halting the operating system process in response to an error detected for a memory object having an associated first type-identifier code, and logging information that describes the error in response to an error detected for a memory object having a second type-identifier code.